Western Forms which we know here, but a remote relationship is suggested between the Eastern and Venezuelan strains.

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GROWING PAINS

IT is an interesting coincidence that two extensive studies of so-called "growing pains," * one in England [1] and one in America, should have been published almost simultaneously. Hawksley,[1] though regarding the name "growing pains" as very unsatisfactory, has found that "In spite of the challenging name of this condition it is thus perhaps the most suitable as, evading all concrete questions of aetiology, it describes a condition which is common in the growing human being." For a long time it has been taught almost universally that growing pains were an indication of rheumatism and that children suffering from them were in danger of development of cardiac lesions.

In a discussion before the American Rheumatism Association, Shapiro,[2] of Minneapolis, made the statement that, in from 8 to 50 per cent of children considered as rheumatic, the condition has been diagnosed on the basis of pain in the extremities alone. At the Lymanhurst Health Center an analysis of the histories of 100 patients with well developed rheumatic heart disease showed that 84 per cent had a definite history of a major attack of rheumatism—either rheumatic fever, or chorea, or both. Of the remaining 16, in practically every instance while there was no history of a major attack of rheumatic infection there was definite evidence of a long continued rheumatic infection.

At the same clinic a follow-up study, continued for 3 years on 200 children who complained only of leg pains, failed to show evidence of chronic rheumatic infection. They are in general good health and none of them have developed chronic heart disease.

T. Duckett Jones, of Boston, in discussing these findings, said, "the so-called growing pains in a child, without a frank history of previous rheumatic fever, do not frequently occur with other manifestations of rheumatic fever or a tendency to develop subsequent rheumatic heart disease. . . . The insidious or asymptomatic development of rheumatic heart disease in children is uncommon but in the young adult it is observed. . . . Mild to severe acute illness is almost invariable, and vague syndromes rarely exist."

Nazum, speaking of how prevalent the belief was that growing pains in children meant rheumatic fever, said that 3 of 6 current medical textbooks he

* Seham and Hilbert attribute the use of the term "growing pains" to Duchamp about 100 years ago. *Am. J. Dis. Child.*, 46:826, 1933.

examined laid stress on the importance of the history of growing pains in arriving at a diagnosis of rheumatic fever. In real rheumatic infections, approximately 75 per cent of children develop clinical evidence of heart lesions, and it is generally believed that every child with rheumatic fever suffers some damage to the heart, about 75 per cent of them having such a degree of inflammation as to produce real damage to the valves or the heart muscle, or to both.

In England (1936) Sheldon [1] analyzed 189 cases of growing pains in the Great Ormond Street Hospital and, after following up for 4 years, found only two who had developed rheumatism with heart lesions and none of them showed chorea. He pointed out that there was no evidence of the histo-pathological changes characteristic of acute rheumatism in growing pains, and that there is no relation between growing pains and sore throats.

In a further series of 24 cases of growing pains followed by Sheldon for 18 to 36 months none developed rheumatic manifestations, making a total of 213 cases of growing pains carefully followed, in which carditis developed in less than 1 per cent.

Of 1,000 children in London and Birmingham seen over 10 years, all those with a history of growing pains were especially studied, and at the Great Ormond Street Hospital, 115 cases of growing pains were subjected to special examinations and 64 of them were followed up after a lapse of 4 years. These children gave a variety of symptoms which are more or less characteristic of such cases, but none of them have shown any evidence of cardiac rheumatism. Taking the cases followed by Sheldon for 4 years with these 64 we have a total of 253 children, only 2 of whom, or less than 0.8 per cent, have developed rheumatic carditis.

The conclusions from these two studies, one in England and one of this country, are that the syndrome of growing pain is not related to rheumatic fever or sub-acute rheumatism and does not provoke rheumatic carditis.

An interesting discussion developed in this study—Does growth of itself produce pain? Shapiro states that he has consulted a number of investigators who are interested particularly in the study of growth, and tried to find out whether or not normal growth in itself might produce such symptoms as are known as growing pains.

No one would commit himself. There are suggestions, however, growing out of the examination of the 115 children mentioned. " There is a frequent history of colds and coughs, vasomotor instability, signs of vague ill health, such as lack of increase in weight, which of itself shows that the pain is not caused by growth. The most common cause was found to be minor orthopedic deformities. Psychological maladjustment was common and " many cases suffered from over-anxious parents, unkind relatives, or unsatisfactory relations with teachers or colleagues at school."

No doubt the result of these studies will be a relief not only to many physicians but also to parents, but they emphasize the importance of careful diagnosis.

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